



November 15, 2004

DESIGN MEMORANDUM No. 04-17
TECHNICAL ADVISORY

TO: All Design, Operations, District Personnel and Consultants

FROM: /s/ Anthony L. Uremovich
Anthony L. Uremovich
Design Policy Engineer
Contract and Construction Division

SUBJECT: Retrofit Thrie Beam Bridge Railing Type TR

EFFECTIVE: March 16, 2005, Letting

Existing aluminum bridge railing is to be replaced where no other modifications to a bridge are to be made either as a spot improvement or within the limits of a 3R or 4R project. The replacement railing will be a deck- or curb-mounted thrie-beam railing with structural steel posts. This railing is designated as bridge railing type TR. It has been approved by the Federal Highway Administration as a National Cooperative Highway Research Program *Report 350* Test Level 4 device.

INDOT *Standard Drawing* 706-TBRF-02 shows details of the steel posts and steel blockouts to be used with deck-mounted railing type TR. INDOT *Standard Drawing* 706-TBRC-03 shows details of the steel posts and steel blockouts to be used with curb-mounted railing type TR. The existing anchor bolts are to be used with new steel base plates for both curb-mounted and deck-mounted railings. A modified guardrail transition type TGB is to be used with an additional 11.43 m (37'-6") run of W-beam guardrail transitioning uniformly from a higher guardrail height to the standard W-beam guardrail height. The guardrail transition modification consists of substituting a post No. 0 for the thrie-beam terminal connector as shown on INDOT *Standard Drawing* 706-TBRC-01. At the end of the run, a run of W-beam guardrail or a guardrail end treatment may be used as required by the design.

Bridge railing type TR requires a new pay item, 706-08188, Railing, TR, pay unit meter (linear foot). The guardrail transition type TGB, though modified, does not require a new pay item.

New INDOT *Standard Drawings* have been developed for the bridge railing type TR and for its modified guardrail transition type TGB. Such INDOT *Standard Drawings* are posted on the Department's website and its *Design and Construction Reference Guide* CD. They are listed below.

706-TBRC-01	Plan view including transition
706-TBRC-02	Section view, curb mounted
706-TBRC-03	Curb-mounted post details; base plate details
706-TBRE-01	Railing element details
706-TBRF-01	Section view, flush mounted
706-TBRF-02	Flush-mounted post details; blockout details

ys:alu